Cable Routing Procedures for Dell™ PowerEdge™ T620 Systems

This Dell Technical White Paper explains the best practices for routing and securing the cables exiting the back of the T620 systems.

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Introduction

This white paper covers recommended cable routing procedures for the Dell™ PowerEdge™ T620 systems in the following racks:

- PowerEdge 2410, 4210
- PowerEdge 2420, 4220, 4820 (including wide and deep versions)
- PowerEdge Energy Smart 4020S, 4620S

If you are using the optional cable management arm (CMA), following these procedures will allow you to extend the system from the rack for service without powering down or disconnecting the cables. If you are not using the CMA, following these procedures will ensure secure attachment and strain relief of the cables behind the system.

For guidelines on how to route cables within the rack, refer to the Dell *Best Practices Guide for Rack Enclosure* white paper. For additional details regarding potential interferences between the CMA and rear-mount power distribution units (PDUs) in Dell racks as well as general information about third party rack compatibility, refer to the *Dell Enterprise Systems Rail Sizing and Rack Compatibility Matrix* located at http://content.dell.com/us/en/enterprise/d/business~solutions~engineering-docs~en/Documents~rail-rack-matrix.pdf.aspx.

Section 1: Cabling a PowerEdge T620 with a CMA

This section details how to cable the PowerEdge T620 systems using a CMA. If you are cabling the system without the optional CMA, refer to Section 3.

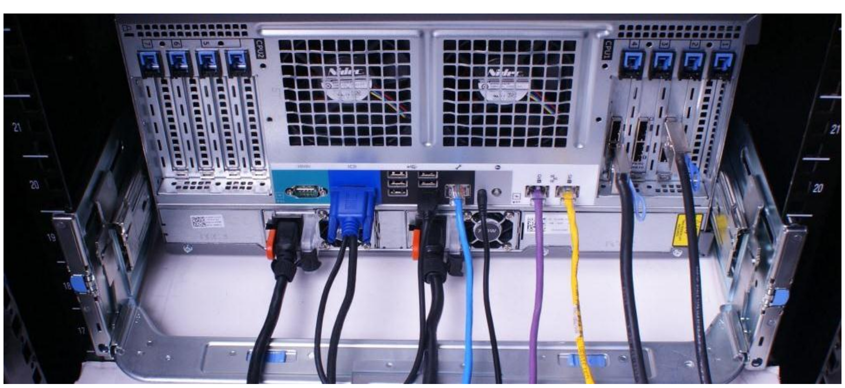
Follow the instructions contained in the *Rack Installation Instructions* in the rail kit to install the server into the rack. Once installed, use these instructions to install the cables. All illustrations in the following sections were created using a PowerEdge T620 system.

NOTE: The PowerEdge T620 system is backward compatible with the PowerEdge T610 rails and CMA.

1.1. Connecting the cables to the system

Attach the CMA tray to the back of the rails as described in the *CMA Installation Instructions* provided in the CMA kit. Connect all applicable cables to the rear of the system and verify that all connections are secure. See Figure 1.

Figure 1. System with cables installed



1.2. Routing the power cables through the strain reliefs

After you have installed the tray and cables, route the power cables through the strain reliefs located on the power supply handles as shown in Figure 2.

Figure 2. Routing power cables through the strain reliefs

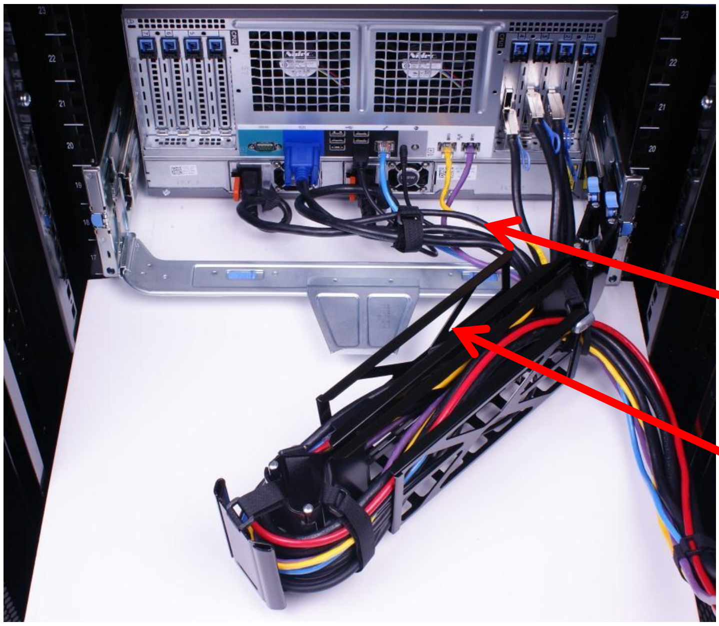


1.3. Installing the CMA

NOTE: If you are installing fiber-optic cables in the CMA, a cable bend radius of at least 1 inch must be maintained throughout the length of the cable. It is recommended that fiber-optic cables be routed on the exterior of the cable bundle to increase the bend radius of the fiber-optic cables through the CMA. Additionally, a large amount of slack at the entrance and exit of the CMA is recommended.

1. Install the CMA on the rear right or rear left side of the rails by attaching both CMA housings to the attachment brackets on the rails as described in the *CMA Installation Instructions*.
2. Route the cables through the CMA while avoiding twisting the cables. Use the hook-and-loop straps on the CMA to secure the cables.
3. If the cable bundle includes a keyboard, video, and mouse system interface pod (KVM SIP), it can be placed inside the CMA basket. See Figure 3.

Figure 3. Routing the cables through the CMA



4. Once you have routed all of the cables through the CMA, dress the cable slack between the back of the system and the entrance of the CMA using the tie wraps provided in the CMA kit.
5. Clip off the excess length of material from the tie wraps. Make sure that the heads of the tie wraps are positioned so as to avoid interference with adjacent systems. Return the CMA to the closed (retracted) position.
6. Extend the system out of the rack to verify that there is sufficient slack in the cables on both ends of the CMA.

See Figure 4 for an example of a completed left-side mounted CMA installation. See Figure 5 for an example of a completed right-side mounted CMA installation.

Figure 4. Left-side mounted CMA installation



Figure 5. Right-side mounted CMA installation

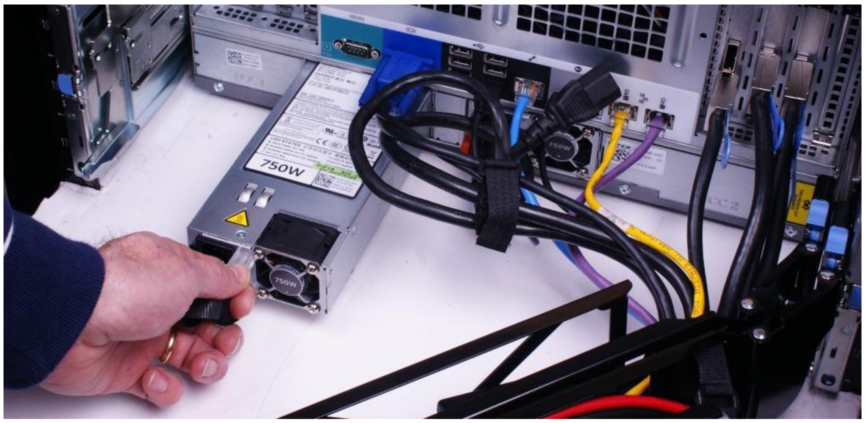


Section 2: Replacing a power supply on a PowerEdge T620 system with a CMA

1. Swing the CMA to its service position as described in the *CMA Installation Instructions* provided with the CMA kit.

2. Remove the tray from underneath the CMA as described in the *CMA Installation Instructions*.
3. Disengage the strain relief and disconnect the power cord from the power supply.
4. Replace the power supply as shown in Figure 6.
5. Plug in the power cord, re-engage the strain relief, replace the CMA support tray, and return the CMA to the closed (retracted) position.

Figure 6. Replacing the power supply



Section 3: Cabling a PowerEdge T620 system without a CMA

NOTE: The CMA for Dell PowerEdge T620 is optional. Without the CMA installed, the system must be powered down and all cables disconnected before it can be extended out of the rack.

1. Connect all applicable cables to the rear of the system and verify that all connections are secure.
2. Using the hook-and-loop straps supplied with the rail kit, bundle the cables and secure them to either the left or right CMA attachment bracket as described in the *Rack Installation Instructions*. See Figure 7 for an example of data cables secured to the right CMA bracket and power cables secured to the left CMA bracket (as viewed from the rear of the system).
3. It is recommended that the cables be secured to the outer brackets, but cables may be secured to the inner brackets as well if desired.

Figure 7. Cable routing without a CMA

